

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: ROUGEOT et al.

Serial No.: 09/334,671

Filed: June 17, 1999

For: INDIRECT X-RAY IMAGE DETECTOR FOR RADIOLOGY

Examiner: Shun Lee

Group Art Unit: 2878

REPLY BRIEF OF APPELLANT (37 CFR 41.41)

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REPLY BRIEF OF APPELLANT (37 CFR 41.41)

Appellant provides the following counter arguments to several points of argument found in the Examiner's Answer.

1. Declaration under 37 CFR 1.132 filed 28 January 2004 is insufficient and untimely.

On page 2, line 16, through page 3, line 2 of the Examiners Answer, the Examiner argues that the declaration under 37 CFR 1.132 filed 28 January 2004 is insufficient to overcome the rejection of claims 1-5, 14 and 20 because it refers only to the appellant's invention and not to the claims, and is also untimely because it refers only to the system described in the application and not to the individual claims of the application.

But, then on page 3, lines 3 to 6, of the Examiner's Answer, it is also stated that declarations submitted under 37 CFR 1.132, and other evidence traversing rejection are

considered timely if submitted after final rejection and submitted with a satisfactory showing under 37 C. F. R. 1.116 (b), or 37 CFR 1.195.

In this regard, it is respectfully submitted that in the present case, the declaration under 37 CFR 1.132 filed 28 January 2004 should be found timely and acceptable. The reasons for this are as follows:

On October 9, 2003 the undersigned appellant's agent had a telephone interview with the primary Examiner Shun Lee during which the fundamental difference between the Morton reference and appellant's invention, particularly as claimed in the independent claim 1, was discussed. The Examiner requested that this difference be put in writing and submitted to him, which was done on October 15, 2003.

Thereafter, on October 29, 2003, the Examiner issued an Advisory Action which was in fact the last Office Action of the Examiner in this case and which read as follows:

"Continuation of 5 does NOT place the application in condition for allowance because: applicant states (first paragraph on pg. 2 of remarks filed 15 October 2003) that Morton discloses a fairly standard indirect x-ray image detector for radiology. First, it should be noted that Applicant discloses (Figs. 2 and 3) a photoreceptor 16 with a common electrode 14 connected to a source of HT voltage (i.e. biased) and pixelated conduction pads 24. It should also be noted that Morton discloses (Figs. 6 and 7) a photoreceptor 201 with a common electrode 202 connected to a source of HT voltage (column 7, lines 24-29) and pixelated collection electrodes 101 (column 7, lines 1-6). Applicant then appears to argue that photoreceptor 201 are of necessity pixelated (illustrated in applicant's lower Figure on pg. 2 as "pixelated structure") since the separation of charges comes from pixelation whereas photoreceptor 16 is not pixelated (illustrated in applicant's lower Figure on pg. 3 as "No pixelation") since it is the electric field that provides the position of the charges. Examiner respectfully disagrees. Morton states (column 7, lines 54-65) that "There is also provided on surface S1 a thin, narrow layer 203 of heavily-doped n⁺-type material (a-Si:H:n⁺) which substantially surrounds each charge-collection 101 and its associated field effect transistor 31. Also,

a layer 204 of heavily-doped p⁺-type material (a-Si:H:p⁺) is deposited on each electrode 101. The spatial distribution of layers 203,204 is such as to create potential minima P_m within the second capacitor 20, as shown in idealised form in FIG. 7, so that charge (in this embodiment electrons) produced within layer 201 is constrained to move within a potential well and is thereby focussed onto the respective charge-collection electrode". Thus, common electrode 202 (connected to a source of HT voltage) and pixelated collection electrodes 101 (with associated structures 203, 204) create an electric field having a potential minima P_m that constrain and drive charge movement and it is also clear from the description and Figs. 6 and 7 that photoreceptor 201 is not pixelated. Thus, applicant's arguments are not persuasive.

Continuation of 10. Other: see attached interview summary. In response to applicant's comments in regard to the interview, applicant should note that no agreement was reached during the interview. Instead, it was suggested that the arguments be submitted for further consideration."

The declaration under 37 CFR 1.132 addresses specifically the issued raised by the Examiner in this last Office Action, in particular the statement made by the Examiner that Morton's photoreceptor 201 is not pixelated. Since the Examiner did not refer to any claims in this last Office Action, the said declaration does not refer to any claims either, but makes it clear that the Examiner's statement to the effect that Morton's photoreceptor 201 is not pixelated is incorrect, and therefore the fundamental difference between Morton and claim 1 of appellant's application which was discussed in the submission of October 15, 2003 does exist. It is noted that in the Examiner's Answer, the Examiner no longer maintains that Morton's photoreceptor 201 is not pixelated.

2. Morton's semiconductors are useful to detect α , β , γ or x-ray radiation

On page 14, line 9 to page 15, line 5 of the Examiner's Answer, the Examiner indicates that with the use of layer 300 of a scintillator of caesium iodide (CSI) having a columnar structure, optical radiation thereby produced is then passed into layer 201. This statement is

correct and in fact some materials listed in column 10, lines 39 to 67 of Morton are indicated as also being useful for detecting optical radiation (see column 10, line 43 and 46).

Also, it is indicated by Morton that when optical radiation is processed by layer 201, it is processed by pixellation (see column 7, lines 47 to 53).

However, other materials, and particularly the material that concerns the present case, namely amorphous selenium, listed under (d) by Morton (see column 10, lines 48-49) is stated to be useful only for detecting α , β , γ and x-ray radiation.

It would, therefore, be surprising to use a thin co-planar multilayer of amorphous selenium material as a photoreceptor for an indirect image detector, and even more surprising to do it without pixellation.

3. Features upon which appellant relies, i.e. that appellant's photoreceptor is not pixelated, are not recited in rejected claims

On page 16, lines 5 to 18 of the Examiner's Answer, the Examiner argues that the features upon which appellant relies (i.e. non-pixelated photoreceptor or that there are extra deposits of doped materials) are not recited in the rejected claims, particularly independent claim 1. An essentially similar statement is made on page 17, lines 14 to 20. Appellant respectfully disagrees. The photoreceptor in claim 1 is clearly defined as "made of a co-planar thin layer amorphous selenium based multilayer structure". Such definition would clearly be understood by a person skilled in the art as referring to a uniform or continuous structure without any separations such as provided by pixels. In fact, the Miriam Webster's Collegiate Dictionary, Tenth Edition, defines "co-planar" as lying or acting in the same plane. The appellant has also used the word "uniform" in the disclosure as an alternative for co-planar (see page 1, line 10 and

page 4, line 2). Thus, the wording “made of co-planar thin layer amorphous selenium based multilayer structure” could not lead one skilled in the art to consider it as a pixelated structure, such as provided by Morton, and the Examiner’s statement (page 4, line 14) that Morton provides a “co-planar thin photoreceptor” is incorrect. Morton does not use the term “co-planar” and in fact Morton’s photoreceptor 102 is not co-planar since it is not formed of multiple co-planar layers, but rather of a single layer of intrinsic a-Si:H (see column 7, lines 25, 41, 47, 63 and column 8, line 47). In fact, nowhere does Morton call layer 201 a “photoreceptor” but rather simply as a layer of the second capacitor 20 (see column 7, lines 24-25 and line 41). Thus, the semiconductor layer 201 of Morton is primarily a dielectric of the capacitor 20. The drift current in such semiconductor depends on the field P_m as disclosed in column 7, lines 59-65. Such detectors are of necessity pixelated as explained in the declaration under 37 CFR 1.132 referred to above. They cannot be compared to appellant’s photoreceptor made of co-planar thin layer of amorphous selenium based multilayer structure which acts as a photoconductor and not as a semiconductor of Morton. Therefore, it is submitted that appellant’s claim 1 clearly defines the photoreceptor as being non-pixelated and as not having any extra deposits of doped materials, since the definition provided in claim 1, namely “made of (meaning it consists of) a co-planar thin layer amorphous selenium based multilayer structure” particularly when taken in conjunction with the disclosure, would make this clear to a person skilled in the art.

4. Combining the references amounts to a bald assertion of obviousness and improper hindsight reconstruction

Starting with page 16, line 18 and ending with page 24, line 21 of the Examiner’s Answer, the Examiner argues that combining the references was proper and that “any judgment

on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning.” (page 24, lines 17 and 18).

It is respectfully submitted that in the present case, the Examiner’s statements and conclusions amount to a bald assertion of obviousness.

Thus, in response to the appellant’s argument that there is nothing in Perez-Mendez that would even hint at the possibility of using a co-planar thin layer of any kind of a non-pixelated photoreceptor that would be capable to convert light into electrical charges, the Examiner states that “the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references” (page 16, line 18 to page 17, line 3).

However, In re Lee, 277 F. 3d 1338, 61 USPQ 24 1430 (Fed. Cir. 2002), the Federal Court has ruled that when USPTO combines references to render an invention obvious, the teaching, suggestion or motivation to combine these references must appear explicitly in the reference. It is submitted that this does not exist herein.

Then, in response to the appellant’s argument that Schiebel et al. is non-analogous art, the Examiner states that a prior art reference must either be in the field of appellant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the appellant was concerned in order to be relied upon as a basis for rejection of the claimed invention. To support this statement, the Examiner sites In re Oetiker.

However, In re Oetiker has been superseded by In re Lee cited above and by In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ 2d 1453, 1459 (Fed. Cir. 1998) where it is stated “even when the level of skills in the art is high, the Board must identify specifically the principle,

known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious". It is submitted that this has not been achieved herein.

Then, in response to the appellant's argument that there is no suggestion to combine the references, the Examiner states that he recognizes that obviousness can only be established by combining or modifying teachings of the prior art to produce the claimed invention when there is some teaching, suggestion, or motivation to do so found either in the references or in the knowledge generally available to one of ordinary skill in the art. The Examiner cites In re Fine and In re Jones to support this statement, but then fails to abide by this teaching. Thus, In re Fine, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988) cited in the Examiner's Answer against the appellant, it is stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention". Also, speculation by the PTO that one of ordinary skill in the art would have been motivated to make the modifications in the prior art, which are necessary to arrive at the claimed invention, is specifically criticized In re Jones, 21 USPQ 2d 1941, 1944 (Fed. Cir. 1992). Despite these clear instructions from the Federal Court, the Examiner picks and chooses among bits and pieces of the prior art references in an effort to bolster his argument regarding obviousness. How else can one claim, without hindsight knowledge of the appellant's invention, that Morton can be modified by changing its a single layer semiconductor operating on a pixelated principle, by a multilayer structure of coplanar thin layers of amorphous selenium acting as a photoconductor? Where is there a suggestion or motivation to do so in Morton or Perez-Mendez or Schiebel et al? It is respectfully submitted that there is none.

Finally, the addition of further prior art references, such as Polischuk et al., Brauers et al. and Kwasnick et al. dealing with similar features in unrelated fields of art, clearly demonstrates that the Examiner proceeded to hindsight reconstruction of appellant's invention from bits and pieces of selected materials in the prior art. In this regard, appellant also notes that in the In re Fine decision referred to above, it is indicated that to "imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." In re Fine, 5 USPQ 2d 1596, 1600 Fed. Cir. 1988) citing W.L. Gore & Associates, Inc. v Garlock Inc., 220 USPQ 303, 312-13 (Fed. Cir. 1983). It is respectfully submitted that the Examiner has become such a victim. The appellant, however, should not be made an additional victim.

In view of the above, it is respectfully submitted that bald assertions of obviousness should not be sustained. Consequently, the Board should not fall victim to the hindsight reconstruction established in the Examiner's Answer, and should set the record straight by reversing the 35 U.S.C. §103 rejections of claims 1-12 and 14-21 at issue in this appeal.

CONCLUSION

For all of the above reasons and the reasons set forth in the Appeal Brief, it is respectfully submitted that the 35 U.S.C. §103 rejection of claims 1-12 and 14-21 is erroneous and should be reversed.

Respectfully submitted,



by:

Date: October 15, 2004

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